

Appl. No. 10/617,620

Docket No. RTN-141PUS

**REMARKS**

Applicant respectfully requests reconsideration of the present application in view of the following remarks.

Claims 1-24 are pending in the application. No claims have yet been allowed. Claims 1-24 are rejected. No claims are amended herein, no claims have been cancelled by this Amendment and no new claims have been added by this amendment.

In accordance with the revised provisions of 37 C.F.R. §1.121(c) as enacted on July 30, 2003, a marked up version of the amended claims is provided above.

The Examiner objected to FIG. 2 of the drawings. Applicants have amended FIG. 2 in the manner suggested by the Examiner on page 2 of the Office Action dated March 29, 2005. Specifically, Applicants have changed the lead line associated with reference numeral 141 to more clearly point to the slot. A copy of the Amended FIG. 2 is enclosed herewith in an Appendix to this paper. Approval of this drawing change is respectfully requested.

The Examiner objected to the specification because of certain informalities. Applicants have amended the specification in the manner suggested by the Examiner on page 2 of the Office Action dated March 29, 2005.

The Examiner rejects Claims 1-8, 10-12, 15-17, 19, 22 and 23 under 35 U.S.C. §102(b) as being anticipated by U.S. Pat. No. 4,500,887 issued to Nester (hereinafter "Nester").

Applicants respectfully submit that Claim 1 is patentably distinct over nester since Nester neither describes nor suggests "...a radiator element comprising ... a pair of fin-shaped substrates spaced apart from one another, each having a transition section and a feed surface ...[and] a balanced symmetrical feed having a pair of radio frequency (RF) feed lines disposed adjacent to and electromagnetically coupled to a corresponding one of the feed surfaces ... ..as called for in Claim 1.

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The Examiner points to reference numeral 56 in FIG. 3 of Nester as showing a fin-shaped substrate. As pointed out in the Nester reference at col. 3 lines 7-8, reference numeral 56 in FIG. 3 of Nester refers to an "upper" or "topside" metallization disposed on a dielectric substrate 54 having a rectangular shape. A fin-shaped substrates as described and claimed in the instant patent application is not the same as a rectangular substrate. Thus, Nester neither describes nor suggest a fin-shaped substrate as called for in Claim 1.

The Examiner has taken the position that region 62 in FIG. 3 of Nester corresponds to a balanced symmetrical feed. Nester at Col. 3 lines 10-15 describes region 62 as "a balanced transmission line region 62." Applicants understand Nester to use the phrase "a balance transmission line region" to merely described the physical geometry of that particular region of the radiating element 52. Applicants would like to point out that Nester neither describes nor suggests that region 62 is a balanced symmetrical feed as called for in Claim 1. In fact, nowhere does Nester state that region 62 is even part of any feed circuit let alone a balanced symmetrical feed circuit. Rather, Nester describes region 62 as being part of the radiating element 52. It is thus Applicants position that Nester the "balance transmission line region" described in Nester is not the same as "a balanced symmetrical feed" as recited in Applicants Claim 1.

To sustain a rejection under 35 U.S.C. §102(b) a single reference must disclose each and every element of the claimed invention. In this case, the cited reference fails to describe fin-shaped substrates and a balanced symmetrical feed as called for in Applicants' Claim 1 and thus the rejection of Claim 1 under 35 U.S.C. §102(b) in view of Nester cannot be sustained.

Claims 2-8 and 10-12 each depend either directly or indirectly from Claim 1 and thus include the limitations of Claim 1. Thus, each of Claims 2-8 and 10-12 are also patentably distinct over Nester.

Applicants respectfully submit that independent Claim 15 is patentably distinct over Nester since Nester neither describes nor suggests "...a wideband antenna comprising ... a first plurality of fins ... forming a first plurality of tapered slots having a feed surface ... a second plurality of

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fins... forming a second plurality of tapered slots, each substantially orthogonal to a corresponding one of the first plurality of tapered slots and having a feed surface ... and a plurality of balanced symmetrical feed circuits disposed on the first surface, each having a pair of radio frequency (RF) feed lines electromagnetically coupled to corresponding ones of the feed surfaces..." as called for in Claim 15.

As discussed above, Nester neither describes nor suggest a pair of fin-shaped substrates nor balanced symmetrical feed circuits as called for in Claim 15. Thus, Applicants submit that Claim 15 is patentably distinct over the cited reference.

Claims 16, 17 and 19 each depend either directly or indirectly from Claim 15 and thus include the limitations of Claim 15. Thus, each of Claims 16, 17 and 19 are also patentably distinct over Nester.

Applicants respectfully submit that independent Claim 22 is patentably distinct over Nester since Nester neither describes nor suggests "... A method for converting the propagation mode of a waveform from a TEM mode to a Floquet mode in a notched radiator element, the method comprising ... providing a pair of elements ... providing a balanced symmetrical feed circuit having a pair of radio frequency feed lines ... coupling the pair of radio frequency feed lines to the elements ...[and] feeding the elements with a differential RF signal coupled to each of the pair of radio frequency feed lines..." as called for in Claim 22.

Nester neither describes nor suggests providing a balanced symmetrical feed circuit having a pair of radio frequency feed lines. The Examiner has taken the position that region 62 in FIG. 3 of Nester corresponds to a balanced symmetrical feed. Nester at Col. 3 lines 10-15 describes region 62 as "a balanced transmission line region 62" and not a balanced symmetrical feed as called for in Applicants' Claim 22. Applicants understand Nester to use the phrase "a balance transmission line region" to merely described the physical geometry of that particular region of the radiating element 52. Applicants would like to point out that Nester neither describes nor suggests that region 62 is a balanced symmetrical feed. In fact, nowhere does Nester state that region 62 is even part of any feed circuit let alone a balanced symmetrical feed

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circuit. Rather, Nester describes region 62 as being part of the radiating element 52. It is thus Applicants position that Nester the "balance transmission line region" described in Nester is not the same as "a balanced symmetrical feed" as recited in Applicants Claim 22.

The Nester reference also neither describes nor suggests feeding the elements with a differential RF signal coupled to each of the pair of radio frequency feed lines as called for in Claim 22.

To sustain a rejection under 35 U.S.C. §102(b) a single reference must disclose each and every element of the claimed invention. In this case, the cited Nester reference fails to describe providing a balanced symmetrical feed circuit having a pair of radio frequency feed lines and feeding the elements with a differential RF signal coupled to each of the pair of radio frequency feed lines as called for in Applicants' Claim 22 and thus the rejection of Claim 22 under 35 U.S.C. §102(b) in view of Nester cannot be sustained.

Claim 23 depends from Claim 22 and thus includes the limitations of Claim 22. Thus, Claim 22 is also patentably distinct over the cited reference.

The Examiner rejects Claims 9, 13, 14, 18, 20, 21, 24 under 35 U.S.C. §103(a) as being anticipated by U.S. Pat. No. 4,500,887 issued to Nester (hereinafter "Nester").

Claims 9, 13 and 14 each depend either directly or indirectly from Claim 1 and thus include the limitations of Claim 1. Thus, each of Claims 9, 13 and 14 are also patentably distinct over Nester since Nester neither describes nor suggests a pair of fin-shaped substrates nor balanced symmetrical feed circuits as called for in each of Claims 9, 13 and 14.

Claims 18, 20 and 21 each depend either directly or indirectly from Claim 15 and thus include the limitations of Claim 15. Thus, each of Claims 18, 20 and 21 are patentably distinct over Nester since Nester neither describes nor suggests a pair of fin-shaped substrates nor balanced symmetrical feed circuits as called for in each of Claims 18, 20 and 21.

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Claim 24 indirectly depends from Claim 22 and thus includes the limitations of Claim 22. Thus, Claim 24 is patentably distinct over Nester since Nester neither describes nor suggests ...providing a balanced symmetrical feed circuit having a pair of radio frequency feed lines and feeding the elements with a differential RF signal coupled to each of the pair of radio frequency feed lines as called for in Applicants' Claim 24.

In view of the above remarks, Applicants submit that Claims 1-254 and the entire case is in condition for allowance and should be sent to issue and such action is respectfully requested.

The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Amendment or this application.

Applicant does not acquiesce to any assertion made by the Examiner that is not specifically addressed herein.

The Assistant Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845.

Dated: 29 JUN 05

Respectfully submitted,

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Appendix:

Replacement Sheet for FIG. 2 (1 sheets) are attached.



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